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The Impact of Financialization on Innovation in Enterprises-An Empirical Study Based on Chinese A-share Listed Companies

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Abstract:
This paper examines the impact of corporate financialization on the innovation activities of Chinese A-share listed companies. The study finds that a higher degree of corporate financialization is associated with lower levels of innovation, indicating that financialization suppresses corporate innovation. This phenomenon primarily arises because the objective of allocating financial assets is to substitute financial asset income for main business income, leading firms to focus excessively on short-term financial returns rather than long-term physical investments. The study recommends that policymakers focus on the coordinated development of finance and the real economy, while being vigilant against the negative impacts of excessive financialization on high-quality economic growth. Additionally, corporate managers should devise prudent asset allocation strategies to ensure that financial investments support innovative development in the real sector.

Keywords: Corporate financialization; Corporate innovation; Crowding-out effect; Shifting from real to financial sectors.

1. Introduction

[1]With the continuous reform and development of China's financial market, China's real economy has shown a trend of combining with the virtual economy, especially after 2010, this feature has become more obvious . On the one hand, the proportion of financial institutions and financial markets in the national economy has increased, and the scale and influence of the financial sector has become larger relative to the real sector; on the other hand, China's economy has entered the stage of transformation and upgrading, and problems such as overcapacities, lack of innovation capacity, and the impact of external instability have squeezed the profit margins of the real sector, and, under this influence, the management of enterprises may be more emphasized on financial engineering and financial strategies to enhance shareholder value, while neglecting product innovation or technological capability improvement.

The topic of financialization of enterprises, which is now widely studied in the academic community, mostly refers to the phenomenon of "shifting from real to financial sectors" of the economy, which is caused by the acquisition of financial assets and financial gains by real enterprises. [2][3]Before the financial crisis, relevant studies began to explore the phenomenon of financialization at the macroeconomic level from microenterprises , pointing out that the U.S. economy has entered a financialization trajectory since the 1970s, with more and more profits and accumulation of the real economy flowing into the virtual economy. [4]In the wake of the financial crisis, financialization has become a perspective for reflecting on the financial crisis that swept across the globe, and some scholars have argued that financialization has pushed up financial instability and bubbles, weakened the financial market's ability to truly reflect the real economy, and has become an important causal factor of the financial crisis. .

Whether or not a firm purchases financial assets represents its resource allocation decision between the real and virtual economy, a choice that will have a significant impact on the firm's growth and operations. There have been studies on the impact of financialization on the operation of enterprises. [5][6]Among them, some studies believe that the allocation of financial assets by enterprises is a "reservoir" of funds, which can improve the liquidity of the enterprise's asset structure and alleviate the plight of the enterprise's declining rate of return on real investment ; in addition, enterprises can smooth out their financial needs by allocating positively

liquidity-adjusted financial assets, which can in turn provide funds for continuous innovation . [7]However, some scholars believe that the shareholder value orientation brought by the market for corporate control in Western capitalist countries after 1970 has led to a single focus on short-term profits by corporate managers, which has given rise to the enthusiasm of non-financial enterprises for financial investment, which squeezes out the real investment ; [8][9]In addition, a large number of studies show that the allocation of financial assets by enterprises can damage the development of the main business, increase the financial risk of the enterprise, reduce the employment of the enterprise's labor, or Reduce the productivity of enterprises .

Corporate innovation is crucial to promoting the development of enterprises, and in recent years, in the face of foreign brutal technological blockade and trade decoupling, China is placing heightened emphasis on technological advancement, particularly intensifying efforts to surmount challenges in critical technological bottlenecks.Enterprises are the important main body of innovation, but also the first line of transformation of the results of innovation. [10]Research has found that innovation can enhance the competitiveness of enterprises, meet the increasingly abundant market and changes in consumer demand, and improve production efficiency, which in turn promotes the sustained growth of enterprise performance and brand building, etc. . These results are not only beneficial to the firms themselves, but also fuel the country's economic growth. [11][12][13]Innovative firms contribute to job creation and structural improvements in employment ; business innovation drives technological advances and enhances a country's international division of labor, supply chain hierarchy, and economic clout . [14]In addition, business innovation has social and environmental benefits, reducing the cost of resource consumption in production activities and contributing to the goal of sustainable development . Corporate innovation is a key factor in driving sustained economic growth and competitiveness for both the enterprise itself and the country, but in the current global economy, where financialization is becoming increasingly pronounced, how might the diversion of resources away from the main business of the real sector impact on the long-term investment in innovative activities and outcomes, if enterprises allocate resources to financial assets in order to maximize short-term capital appreciation and financial returns?

In order to investigate whether financialization promotes or inhibits corporate innovation, this paper selects the data of China's A-share listed companies in the period 2007-2021 and empirically examines how the allocation of financial assets affects corporate innovation. It is found that the larger the proportion of financial assets allocated by firms, the weaker the innovation level of the firms, i.e., financialization inhibits firms' innovation.

2. Theoretical analysis and hypothesis formulation

The allocation of financial assets stems from the enterprise's dependence on external resources, the natural profit-seeking nature of capital, or principal-agent conflicts, etc. Whether the financialization of real enterprises promotes or inhibits corporate innovation is obviously also related to their specific motives for allocating financial assets. Because the different motives of enterprises to configure financial assets will determine their disposal behavior of the financial assets held when facing the needs of the entity's operation: that is, either they choose to sell to make up for the entity's needs, or they choose to continue to hold them in order to earn excess returns in the financial market, which will have a "feeding" or "crowding-out" effect on corporate innovation. This can have different effects on firms' innovation, either "feeding" or "crowding-out". Most studies categorize firms' motives for allocating financial assets into two, namely, the "reservoir" motive and the "substitution" motive.

The "reservoir" theory emphasizes the advantages of placing assets in financial markets to help firms better manage liquidity, reduce risk, add value to capital and take advantage of market opportunities. [15]The precautionary savings theory suggests that firms reserve cash or other financial assets at opportune moments to mitigate the adverse effects of future uncertainty and risk in order to improve financial soundness, smooth corporate cash flows, and diversify business risks to ensure sustainable operations and growth. If financial assets function as a reserve of funds, the "reservoir" motive can affect corporate innovation through the following channels: first, compared with physical assets, holding a certain amount of financial assets enables enterprises to quickly seize attractive investment opportunities and quickly convert them into funds for expanding market boundaries or trading in the market when needed, thus ironing out the fluctuation of capital demand for innovative activities; second, compared with cash, financial assets have better profitability, and financial assets can not only be used to reserve internal cash flow to form internal financing for the enterprise, but also reduce the cost of capital by allocating financial assets to reserve surplus financing funds in times of

monetary easing and abundant external financing resources; [16]In addition, capital financing can improve the asset-liability structure of the enterprise, improve the enterprise's credit rating and thus strengthen the financing ability, which is conducive to the enterprise to obtain long-term capital integration; Third, the investment in financial assets through the income effect to promote corporate innovation, when the enterprise's profitability is relatively high, the remaining funds will be used for financial investment, and then the financial income obtained will be invested into the real sector when needed, which will further increase the profitability of the enterprise, and form the benign cycle of mutual progress of the industry and the finance. .

The "substitution" motive in enterprise financial asset allocation refers to the practice whereby firms allocate their funds towards purchasing financial instruments rather than investing in their core business or long-term growth. This occurs when managers perceive that these funds can generate higher or more immediate returns in the financial markets. Consequently, this reallocation of resources to the financial sector can exert a crowding-out effect on the firm's industrial investments. If the financial asset allocation behavior of enterprises is based on the speculative purpose of earning excessive returns in the financial market, the financialization driven by such motives will have at least the following two aspects of impact on corporate innovation: first, when enterprises can not get external capital integration at will, the market arbitrage behavior of the financialization of the real enterprise is at the expense of the investment in physical capital or R&D and other long-term cyclical investments, which will damage the foundation of corporate innovation; second, in addressing the issue of agency within corporations, a pivotal question arises concerning the alignment of interests between senior management and shareholders, as well as among major and minor shareholders. Specifically, when these parties' interests diverge, the party with informational advantages or control tends to prioritize short-term financial returns over the long-term health and growth of the company, which leads to the adoption of financial investment strategies by the enterprise in order to obtain quick financial returns and neglect physical innovation investment and sustainable growth.

In summary, while an effective financialization strategy may help to enhance the financial stability and innovation potential of firms, and financialization can better "feed" innovation in real firms. However, if the financialization of real firms is based on market arbitrage motives, and financial investment is an "alternative" to low-yield, high-cost friction and irreversible investment in innovation, it will inevitably empty the resources for the development of the real industrial sector and deteriorate the prospects for corporate innovation. In order to explore the overall motivation that dominates the allocation of financial assets by enterprises and the effect of financialization on corporate innovation, the paper proposes the following hypotheses:

H1a: Financialization has a positive impact on corporate innovation if the firm's financialization is dominated by a "reservoir" motive;

H1b: Financialization has a negative impact on corporate innovation if the firm's financialization is dominated by a "substitution" motive.

3. Study design

3.1 Econometric modeling

To test the research hypotheses, this paper constructs model (1) to examine the impact of financialization on corporate innovation.

$$Innovation_{ft} = \alpha + \beta fin_{ft} + \gamma Z_{ft} + \delta_f + \varphi_t + \varepsilon_{ft} \quad (1)$$

In this study, f represents the firm and t represents the year. The dependent variable $Innovation_{ft}$ measures the innovation level of firm f in year t. If hypothesis H1a is supported, we expect the regression coefficient (β) of financialization (fin) to be significantly positive, indicating that financialization fosters corporate innovation. Conversely, if hypothesis H1b holds true, a significantly negative coefficient suggests that financialization hinders innovation. Additionally, δ_f captures firm-specific fixed effects to control for unobservable firm-level factors, while φ_t accounts for year fixed effects to mitigate potential confounding factors at the temporal level. Finally, ε_{ft} represents the random error term.

3.2 Variable selection

3.2.1. Core explanatory variable: [8]In constructing the indicator of the degree of financialization of enterprises (fin) , this paper adopts the method proposed by Du Yong , that is, assessing the financialization level by calculating the ratio of financial assets held by enterprises to their total assets. Specifically, based on the

enterprise's balance sheet, net available-for-sale financial assets, net held-to-maturity investments, trading financial assets, derivative financial assets, net loans and advances granted, and net investment real estate are all included in the category of financial assets. In addition: monetary funds in the balance sheet of an enterprise are not regarded as financial assets, because monetary funds are cash, bank deposits and other similar assets held by an enterprise, which are usually highly liquid, and these funds can be used at any time to pay for the enterprise's daily expenses and accounts payable, etc., and are related to the enterprise's day-to-day operations, and are not held with the purpose of obtaining a return on investment. Therefore, monetary funds are not included in the financial assets in this paper. In addition, investment real estate has the potential for capital appreciation. In recent years, China's real estate market has experienced large price fluctuations, especially in first-tier cities, and such price fluctuations are not only affected by real demand, but also by speculative sentiments and the liquidity of investment funds, which has made China's modern real estate market to a large extent exhibit the characteristics of virtual speculative products. Therefore, this paper includes the net investment real estate item in the category of financial assets held by enterprises. In addition, this paper replaces the item of post-2018 changes in accordance with "Accounting Standards for Enterprises No.22–Recognition and Measurement of Financial Instruments", which came into effect from January 1, 2018 onwards. As a result, the degree of financialization of the enterprise (fin) is calculated by the formula:fin = (Net available-for-sale financial assets + Net held-to-maturity investments + Trading financial assets + Net investment properties + Net loans and advances granted + Derivative financial assets)/Total assets; after 2018:fin = (Other debt investments + Other equity instrument investments + Debt investments + Trading financial assets + Net investment real estate + Net loans and advances issued + Derivative financial assets) / Total assets.

3.2.2. Core explained variable: corporate innovation measures ($Innovation$), the innovation level of enterprises is usually measured using indicators such as R&D input and patent output. Considering the completeness of the data, this paper uses the number of patent applications of listed companies to measure, and uses R&D investment to conduct robustness tests.

3.2.3. The control variables at the firm level include: (1) Firm size (LnSize), measured by the natural logarithm of total assets; (2) Total debt ratio (Tl), calculated as total liabilities divided by total assets; (3) Financing constraints (SA), where a higher absolute value of the SA index indicates greater financing constraints. Since the SA indices for A-share firms are negative, a lower SA index signifies more severe external financing constraints; and (4) Firm age (Age), defined as the difference between the sample reporting year and the year of establishment.

3.3 Sample Selection and Data Sources

In order to eliminate the possible impact of the change in China accounting standards in 2006 on the results of the study and to maintain consistency with existing studies, companies in the non-financial and real estate industries listed in China's A-share market in Shanghai and Shenzhen during the period of 2007 to 2021 are selected as the sample for this study. Samples with incomplete data were excluded during the sample screening process, while all the data required in the study were obtained from the CSMAR database.

4 Empirical results

4.1 Baseline estimation results

Based on the benchmark model established in the previous section, this study conducted a regression analysis by introducing control variables one by one, and the results are displayed in Table 2. In Table 2, column (1) does not contain any control variables, while columns (2) and (3) incorporate control variables representing the basic characteristics of enterprises. Based on the results of the regression analysis in Table 1, we can observe that the regression coefficients of corporate financialization show negative values at the 1% significance level in all models, a result that suggests that corporate financialization has a significant negative impact on corporate innovation, thus supporting the hypothesis H1a. In column (3) of Table 1, the regression coefficient of corporate financialization is -0.1830, and for every one unit increase in the degree of financialization, the level of corporate innovation as measured by patent applications will decrease by 0.1830 units. The results of the study show that hypothesis H1a is supported, while hypothesis H1b is rejected, suggesting that the financialization behavior of real enterprises is mainly driven by the "substitution" motive in the overall economic situation. The higher the degree of financialization of enterprises, the worse their

performance in innovation. Real firms invest in financial assets more in pursuit of speculative and arbitrage gains than in order to utilize the so-called "reservoir" effect to feed the demand for innovation funding. If the financial market can provide high returns, it will attract enterprises to invest in financial instruments such as stocks and bonds, which may lead to enterprises paying more attention to investing in financial markets and being unwilling to take greater long-term risks for real investments. The financial market is oriented towards short-term returns, which also caters to the needs of agents and major shareholders in pursuit of high short-term returns. The investment income obtained is then reinvested in the financial market, and social capital continues to circulate idly in the virtual economy, fuelling financial bubbles and risks. This financialization will weaken the willingness and ability of the real sector to innovate.

Table 1 Benchmark regression results

variant	(1)	(2)	(3)
Financialization	-0.1732***	-0.1787***	-0.1830***
	(0.0634)	(0.0638)	(0.0644)
LnSize		0.0712***	0.1314***
		(0.0084)	(0.0197)
Debt		-0.0087	-0.0226*
		(0.0109)	(0.0118)
Age		0.2430***	0.2332***
		(0.0458)	(0.0459)
SA			-0.1311***
			(0.0431)
Constant Term	1.6214***	-0.6356***	-1.7763***
	(0.0053)	(0.2263)	(0.4058)
Sample Size	41,576	41,571	41,463
R^2	0.782	0.783	0.783

Note: Robust standard errors are in parentheses in each column; ***, **, and * denote 1%, 5%, and 10% significance levels, respectively.

4.2 Robustness test results

4.2.1 Endogeneity problem. The possible temporal correlation of performance indicators under the long-term impact effect and the similar macroeconomic and financial environments in which the sample firms are located, as well as the presence of unobserved omitted variables, may cause the model to face the endogeneity problem. To address the impact of endogeneity on the findings of this paper, this study uses financialization indicators's first-order and second-order lagged terms as instrumental variables and applies the instrumental variable-generalized moment estimation (IV-GMM) method to test the endogeneity problem in the model. In order to verify the appropriateness of the selected instrumental variables, this paper employs the Kleibergen-Paap rk LM statistic to check for possible non-identification problems, and the Kleibergen-Paap rk Wald F as well as the Hansen J statistic to examine weak instrumental variables and over-identification, respectively. The results of the tests pointed out that none of the three potential problems emerged, confirming that the fin_{t-1}、fin_{t-2} validity of the two lagged terms as instrumental variables. In the second stage of the test, it was found that the negative effect of financialization on corporate innovation remained significant, consistent with the results of the two-way fixed effects regression, indicating that the endogeneity problem did not weaken the reliability of the findings of this paper.

4.2.2 Replace measures for the interpreted variable. This study utilizes corporate research and development (R&D) investment as an alternative measure of innovation in place of patent applications, and subsequently re-conducts the aforementioned regression analysis. Column (2) in Table 2 shows the results after replacing the measure of the explanatory variables, in which the estimated coefficient of financialization is negative and meets the requirement of 1% significance level. Although this estimated coefficient is slightly smaller than the corresponding coefficient in Table 1, taking into account the effect of the difference in the unit magnitude of the data for the explanatory variables, the results are highly consistent in terms of the sign nature and significance of the explanatory variables, which suggests that the estimation of financialization in Table 1 is robust.

4.2.3. Winsorizing treatment. To examine the robustness of the impact of financialization on corporate innovation while mitigating the influence of outliers, this study applies a winsorization technique at the 1% level to both tails for the key variables (corporate innovation and corporate financialization) as well as other continuous variables. Column (3) of Table 2 demonstrates the results after the winsorizing treatment, in which the estimated coefficient of financialization remains significantly negative. Comparing the estimated coefficients on financialization in Table 1, neither the size of the estimated coefficients nor their significance change significantly before and after the winsorizing process. This suggests that the estimates in Table 1 are not disturbed by outliers, ensuring the stability and reliability of the benchmark regression.

Table 2 Robustness test results

Variant	IV-GMM estimation	R&D investment as an explanatory variable	Winsorizing treatment
Financialization	-0.3206***	-0.8221***	-0.2176***
	(0.0341)	(0.0870)	(0.0670)
Control variable	Yes	Yes	Yes
Kleibergen-Paap rk LM statistic	384.31		
Kleibergen-Paap rk Wald F-statistic	2096.65		
Hansen J statistic	11.02		
Constant term	-2.8426***	3.6554***	-1.5550***
	(0.7211)	(0.9954)	(0.3981)
Sample size	40,262	31,115	41,463
R^2	0.551	0.845	0.779

Note: Robust standard errors are in parentheses in each column; ***, **, and * denote 1%, 5%, and 10% significance levels, respectively

5. Conclusions of the study

Using the data of China's A-share listed companies from 2007-2021, this paper measures the level of corporate financialization and examines the impact of financialization on corporate innovation from both theoretical and empirical perspectives. The findings show that the level of corporate financialization is significantly negatively related to the level of corporate innovation. Specifically, an increase in the level of financialization inhibits the level of corporate innovation. This phenomenon is mainly due to the fact that speculative arbitrage in the allocation of financial assets by firms crowds out the space of available resources that firms use to invest in innovation, and this allocation inhibits firms from innovating through the crowding-out effect on investment in innovation. The findings of this paper are important for understanding and addressing the challenges posed by financialization and promoting corporate innovation.

Policymakers should pay attention to the coordinated development of the financial market and the real economy to avoid the possible negative impacts of excessive financialization. From the perspective of corporate managers, corporate managers should formulate a reasonable asset allocation strategy based on their own resource endowment and the industry environment in which they operate in order to realize the innovative development of their enterprises. Specifically: (1) balance the relationship between the financial-real economy, shorten the gap between the financial and real economic returns, in order to reduce the damage of corporate financialization on the real corporate innovation, first of all, from the level of macroeconomic profit distribution mechanism to implement the "financial concessions" policy. (2) Establishing a good financial and market environment can prevent the financialization of enterprises and promote corporate innovation. This includes: encouraging financial institutions to provide customized financing products to meet the innovative financing needs of different enterprises; the government taking the lead in optimizing, integrating, and opening up credit assessment and information sharing systems to improve the efficiency and accuracy of credit approval and reduce unreasonable credit discrimination; and promoting financial technology to help enterprises innovate and develop. (3) Guiding enterprises to rationally allocate financial assets. The financial industry and the real economy are synergistic components of the economy, and they are not subjects of confrontation. The financialization of enterprises is not a phenomenon that should be rejected in its entirety, but rather a financial strategy that needs to be finely managed and rationally applied. The risk management and liquidity management characteristics of financial assets determine that financialization is a necessary

complement to real investment. Enterprises can use financial assets as a tool for risk management, but they should optimize their internal governance structure to ensure that the investment decision-making process for financial assets is transparent and efficient, to prevent short-sighted behavior by the management, and to ensure that the financial investment is not based on short-term returns to the detriment of corporate innovation.

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References:

1. Zhang Chengsi & Zhang Butan. (2016). The Mystery of the Decline in China's Industrial Investment Rate: A Perspective on Economic Financialization. Economic Research (12), 32-46.
2. Krippner, G. R. (2005). The financialization of the American economy. Socio-Economic Review, 3(2), 173-208.
3. Orhangazi, O. (2006). Financialization of the United States Economy and its Effects on Capital Accumulation: A Theoretical and Empirical Investigation (Doctoral dissertation, University of Massachusetts Amherst).
4. Stockhammer, E. (2010). Financialization and the Global Economy. Political Economy Research Institute Working Paper, 242(40), 1-17.
5. Bodnar, G. M., Hayt, G. S., Marston, R. C., & Smithson, C. W. (1995). Wharton Survey of Derivatives Usage by US Non-Financial Firms. Financial Management, 24(2), 104-114.
6. Yin Xianan & Zhan Ximing. (2023). The Impact and Mechanism of Financialization on Digital Transformation in Real Enterprises. China Circulation Economy (10), 26-38. doi:10.14089/j.cnki.cn11-3664/f.2023.10.003.
7. Stockhammer, E. (2004). Financialisation and the Slowdown of Accumulation. Cambridge Journal of Economics, 28(5), 719-741.
8. Du Yong, Zhang Huan & Chen Jianying. (2017). The Influence of Financialization on the Future Main Business Development of Real Enterprises: Promotion or Suppression. China Industrial Economics (12), 113-131. doi:10.19581/j.cnki.ciejournal.20171214.007.
9. Liu Shuwen, Liu Jianqiu & Yang Yang. (2023). Corporate Financialization and Production Efficiency: "Catalyst" or "Stumbling Block". Nankai Business Review (01), 55-68.
10. Yin Meiqun, Sheng Lei & Li Wenbo. (2018). Executive Incentives, Innovation Investment and Company Performance—An Empirical Study Based on Endogenous Perspective by Industry. Nankai Business Review (01), 109-117.
11. Sunder, J., Sunder, S. V., & Zhang, J. (2017). Pilot CEOs and Corporate Innovation. Journal of Financial Economics, 123(1), 209-224.
12. Wei Hao, Lian Huijun & Wu Jun. (2019). Sino-US Trade Friction, US Import Shock and Chinese Enterprise Innovation. Statistical Research (08), 46-59. doi:10.19343/j.cnki.11-1302/c.2019.08.004.
13. Zhang Xiaodi & Zhu Qin. (2007). On the Benign Interaction between Innovation and Market Power Construction of Chinese Enterprises in the Global Value Chain. China Industrial Economics (05), 30-38. doi:10.19581/j.cnki.ciejournal.2007.05.004.
14. Rehman, S. U., Kraus, S., Shah, S. A., Khanin, D., & Mahto, R. V. (2021). Analyzing the Relationship Between Green Innovation and Environmental Performance in Large Manufacturing Firms. Technological Forecasting and Social Change, 163, 120481.
15. Demir, F. (2009). Financial liberalization, private investment and portfolio choice: financialization of real sectors in emerging markets. Journal of Development Economics, 88(2), 314-324.
16. Xie Jiazhe, Wang Wentao & Jiang Yuan. (2014). Manufacturing Financialization, Government Control and Technological Innovation. Economic Trends (11), 78-88.

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